

## METHOD AND APPARATUS FOR PROTECTING ELEMENTS OF A PAINT SHOP

### CROSS-REFERENCE TO RELATED APPLICATIONS

**[0001]** This application claims the benefit of U.S. Provisional Application No. 60/457,000, filed on March 24, 2003. U.S. Provisional Application No. 60/457,000 is incorporated by reference as if fully set forth herein.

### FIELD OF THE INVENTION

**[0002]** The present invention relates to an apparatus for covering an element of a paint shop. More particularly, the present invention relates to a resilient apparatus for covering an element of a paint shop that functions to protect the element from overspray paint and/or protect a painted object from becoming scratched by the element. The present invention also pertains to a related method of protecting a ceiling mounted sprinkler while maintaining the functionality of the sprinkler.

### BACKGROUND OF THE INVENTION

**[0003]** Painted goods such as automobiles and the like conventionally utilize a dedicated paint area or paint room for the application of paint. The paint rooms are highly regulated to promote a quality paint finish. For example, most conventional clothing is prohibited due to the loose fibers which otherwise end up in the paint. Additionally, various lotions and other home products are prohibited due to their adverse effect on the painting process.

**[0004]** In many applications, paint is applied to goods such as automobiles with automated paint robots. The robots advantageously eliminate human error, reduce labor and provide improved and repeatable quality. The application of paint with automated paint robots is necessarily associated with a degree of overspray. Some overspray of paint is required to ensure complete painting of the subject article.

**[0005]** It has heretofore been appreciated in the pertinent art that automated paint robots can be equipped with cloth covers to both protect the robot and reduce paint defects. In this regard, the cloth covers substantially shield the robots from overspray paint, thereby protecting the moving parts of the robot. Additionally, the cloth covers prevent the accumulation of paint that may otherwise result in the dripping of paint on the article to be painted.

**[0006]** It remains a need in the pertinent art to protect various other elements resident in or brought into a paint shop. For example, paint shop personnel may wear metal objects such as rings, watches, belt buckles and the like. Removal of these objects is inconvenient and may result in property loss. If such metal objects are not removed or suitably covered, they are subject to the accumulation of overspray paint. Furthermore, inadvertent contact between such metal objects and a newly painted article often results in scratching of the article that requires time consuming and expensive repair or complete repainting of the article.

**[0007]** A similar need remains in the art for the protection of items resilient in the paint shop. For example, ceiling mounted sprinklers are subject to the accumulation of overspray paint. This accumulation may result in premature

replacement of the sprinkler to ensure proper functioning or the dripping of paint from the sprinkler. While it is desirable to cover such sprinklers for the protection from paint, the sprinklers must remain fully functional.

## SUMMARY OF THE INVENTION

**[0008]** It is a general object of the present invention to provide an apparatus for covering an element of a paint shop that protects the element from paint overspray and/or protects a painted object from drips of paint from the element or scratching by the element.

**[0009]** It is another object of the present invention to provide disposable protection for elements of a paint shop.

**[0010]** It is another object of the present invention to provide protective covers for various elements of a paint shop that can be quickly and easily installed without the use of discrete fasteners.

**[0011]** It is another object of the present invention to provide protective covers for various elements of a paint shop constructed of a material capable of absorbing an amount of paint overspray.

**[0012]** It is a more particular object of the present invention to provide a watch cover for circumferentially surrounding a watch and its band, the watch cover including a clear window through which the face of the watch remains visible.

**[0013]** It is another more particular object of the present invention to provide a ring cover for circumferentially surrounding a ring.

**[0014]** It is another more particular object of the present invention to provide a sprinkler cover that maintains functional requirements of the sprinkler.

**[0015]** In one application, the present invention provides an apparatus for protecting a watch worn on a wrist of a user. The apparatus includes a band portion for circumferentially surrounding a portion of the watch. The apparatus further includes a transparent window for allowing the user to view a face of the watch.

**[0016]** In another application, the present invention provides a covering for a sprinkler head. The apparatus includes a cover defining a cavity having an open end for receiving the sprinkler head into the cavity. At least a portion of the cover is constructed of a breathable material that allows smoke to penetrate the cover for activation of the sprinkler head.

**[0017]** In another form, the present invention provides a method of protecting a ceiling mounted sprinkler head from paint while maintaining the functionality of the sprinkler head. The method includes the step of providing a cover defining a cavity for receiving the sprinkler head, the cover including at least a portion constructed of a breathable material. The method additionally includes the step of inserting the sprinkler head into the cavity of the cover to surround and protect the sprinkler head. The method further includes the step of allowing smoke to penetrate the portion of the cover and activate the sprinkler head.

**[0018]** Further areas of applicability of the present invention will become apparent from the detailed description provided hereinafter. It should be understood that the detailed description and specific examples, while indicating the preferred

embodiment of the invention, are intended for purposes of illustration only and are not intended to limit the scope of the invention.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0019]** The present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

**[0020]** Figure 1 is an environmental view illustrating a watch cover and a ring cover constructed in accordance with the teachings of the present invention, the watch cover and ring cover being worn by a user.

**[0021]** Figure 2 is an enlarged perspective view of the watch cover of the present invention.

**[0022]** Figure 3 is an enlarged side view of the watch cover of the present invention.

**[0023]** Figure 4 an enlarged perspective view of the ring cover of the present invention.

**[0024]** Figure 5 an enlarged side view of the ring cover of the present invention.

**[0025]** Figure 6 is an environmental view illustrating a sprinkler head cover constructed in accordance with the teachings of the present invention being attached to a sprinkler head.

**[0026]** Figure 7 is an enlarged perspective view of the sprinkler head cover of the present invention.

**[0027]** Figure 8 is another enlarged perspective view of the sprinkler head cover of the present invention.

**[0028]** Figure 9 is another enlarged perspective view of the sprinkler head cover of the present invention.

**[0029]** Figure 10 is an enlarged side view of the sprinkler head cover of the present invention.

**[0030]** Figure 11 is a cross-sectional view taken along the line 11-11 of Figure 10.

**[0031]** Figure 12 is a cross-sectional view taken along the line 12-12 of Figure 10.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

**[0032]** The following description of the preferred embodiments of the present invention is merely exemplary in nature and is in no way intended to limit the invention, its application, or uses.

**[0033]** With initial reference to Figures 1-3, an apparatus for covering a watch constructed in accordance with the teachings of a first preferred embodiment of the present invention is illustrated and generally identified at reference character 10. The environmental view of Figure 1 illustrates the apparatus 10 operatively associated with a watch 12 worn on the wrist 14 of user. Figure 2 is an enlarged perspective view of the apparatus 10 expanded to receive a hand 16 of the user. Figure 3 is a side view of the apparatus 10 shown prior to use in a flattened or storage condition.

**[0034]** The apparatus 10 circumferentially surrounds the watch 12 and is illustrated to generally include a band or band portion 18 and a window 20. The band 18 is preferably constructed of an elastic and absorbent material. In one application, the band is constructed of an open cell foam. It will be appreciated by those skilled in the art, however, that other materials may alternatively be employed. Significantly, the open cell foam provides an inexpensive material that can be disposed after a single use. Additionally, the open cell foam provides a material capable of absorbing an amount of overspray paint and protecting painted objects from scratching by the watch 12. Furthermore, the open cell foam is resilient and can thereby be quickly and easily secured to the user without any additional fastening steps or discrete fasteners. Still yet further, the band is elastically deformable along both its length and width. The elastic deformation along its length allows for use with various size wrists/watches. The elastic deformation along its width causes the band to snugly surround the watch and prevent paint from getting to the watch.

**[0035]** The window 20 of the apparatus 10 is transparent. The window 20 allows the user to view a face of the watch 20 when the apparatus 10 is in place. In one application, the window is constructed of a clear plastic film. It will be appreciated by those skilled in the art, however, that other materials that permit the viewing of the watch face may alternatively be employed. In the embodiment illustrated, the window 20 is permanently secured to the band 18 by a pair of heat sealed seams 22.

**[0036]** In one particular application, the band 18 has a circumferential length of approximately 6.00 inches and a width of approximately 2.50 inches. In this embodiment, the window 20 has a circumferential length of approximately 2.00 inches. The resilient nature of the foam allows a single size apparatus 10 to accommodate various users. It will be appreciated that the dimensions provided herein are merely exemplary. In this regard, the teachings of the present invention are not limited to any particular size for the apparatus 10 and that alternate sizes are merely a matter of design choice.

**[0037]** With continued reference to Figure 1 and additional reference to Figures 4 and 5, an apparatus for covering a ring constructed in accordance with the teachings of the present invention is illustrated and generally identified at reference character 100. Figure 1 illustrates the apparatus 100 operatively associated with a ring 102 worn by the user. Figures 4-5 further illustrate the construction of the apparatus 100.

**[0038]** The apparatus 100 circumferentially surrounds the ring 102 and is preferably constructed of an open cell foam. In the embodiment illustrated, the apparatus 100 includes a first band portion 104 and a second band 106. The first and second band portions 104 and 106 are joined to each other at heat sealed welds 108.

**[0039]** The open cell foam of the apparatus 100 provides an inexpensive material that can be disposed after a single use. Additionally, the open cell foam of the apparatus 100 provides a material capable of absorbing an amount of overspray paint and protecting painted objects from scratching by the ring 102. Furthermore,



the open cell foam of the apparatus 100 is resilient and can thereby be quickly and easily secured to the user without any additional fastening steps.

**[0040]** In one particular application, the apparatus 102 has a circumferential length of approximately 2.50" and a width of approximately 1.25 inches. In another application, the apparatus 100 similarly has a circumferential length of approximately 2.50 inches and a width of approximately 0.75 inches. As with the apparatus 10, the resilient nature of the foam allows the apparatus 100 to accommodate various sizes. Again, it will be appreciated that the dimensions of the particular applications provided herein are merely exemplary. In this regard, the teachings of the present invention are not limited to any particular size for the apparatus 100 and that alternate sizes are merely a matter of design choice.

**[0041]** Turning to Figures 6-9, an apparatus for covering a sprinkler head is illustrated and generally identified at reference character 200. Figure 6 is an environmental view illustrating attachment of the apparatus 200 to a conventional sprinkler head 202. Figures 7-9 further illustrate the construction of the apparatus 200.

**[0042]** The apparatus 200 is illustrated to include a cover having a first side 204 and a second side 206. The sides 204 and 206 are generally rectangular in shape. The sides are secured to each other along three edges by a hot seal weld 208. A fourth edge is open and provides access to a cavity 210 defined between the sides 204 and 206. The open fourth edge receives the sprinkler head 202.

**[0043]** At least a portion of the cover is constructed of a breathable material that allows smoke to penetrate through the cover for activating the sprinkler

head. In one application, the portion is open cell foam. In the exemplary embodiment, the first and second sides are completely constructed of open cell foam.

**[0044]** The inherent resiliency of the open cell foam allows the apparatus 200 to be quickly and easily secured to the sprinkler head 202. Additionally, the open cell foam provides an inexpensive material that can be disposed after a single use. Furthermore, the open cell foam provides material capable of absorbing an amount of over spray paint and thereby both protecting the sprinkler head 202 from premature failure and absorbing the over spray paint to prevent dripping on the painted objects.

**[0045]** Significantly, the open cell foam retains the full function of the sprinkler head 202. In this regard, the open cell foam is sufficiently breathable such that smoke may penetrate the apparatus 200 for purposes of activating the sprinkler head 202. Also, the resilient nature of the open cell foam allows the apparatus 200 to be removed from the sprinkler head 202 upon activation of the sprinkler head 202. In this regard, the water pressure of the sprinkler head 202 will force the apparatus 200 from the sprinkler head 202.

**[0046]** In one particular application, the apparatus 200 includes a length L of approximately 6.12 inches and width W of approximately 3.50 inches. It will be appreciated that the dimensions provided herein are merely exemplary. In this regard, the teachings of the present invention are not limited to any particular size for the apparatus 200 and that alternate designs are merely a matter of design choice.

**[0047]** The description of the invention is merely exemplary in nature and, thus, variations that do not depart from the gist of the invention are intended to be within the scope of the invention. Such variations are not to be regarded as a departure from the spirit and scope of the invention.